

THE OFFICE OF REGULATORY STAFF

DIRECT TESTIMONY

OF

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DOCKET NO. 2009-226-E

**Application of Duke Energy Carolinas, LLC
for Authority to Adjust and Increase
Its Electric Rates and Charges**

1 classes receives varying types of service and contribute different load
2 characteristics to the system. The Cost of Service Study allocates – or assigns –
3 responsibility for the revenues, expenses and rate base items among the individual
4 customer classes. That is, the cost responsibility for expenses and rate base items
5 should be allocated to the customer class(es) that caused the cost to be incurred.
6 This allocation methodology is referred to as “cost causation.”

7 **Q. WOULD YOU PLEASE EXPLAIN THE MAJOR COMPONENTS OF A**
8 **COST OF SERVICE STUDY?**

9 **A.** The major components utilized in the development of a fully distributed
10 Cost of Service Study are functionalization, classification and allocation.
11 Functionalization is the process of categorizing cost according to its function –
12 which is either production, transmission, or distribution. Classification is further
13 dividing these costs into the type of service they provide, namely demand, energy
14 or customer. The allocation of these costs is based upon the demand, energy or
15 customer costs incurred by the individual classes.

16 **Q. PLEASE DESCRIBE THE ALLOCATION METHODOLOGY USED BY**
17 **THE COMPANY IN ITS COST OF SERVICE STUDY.**

18 **A.** The Company filed its study based on the summer peak day One-Hour
19 Coincident Peak Demand, which was approved by the Commission in the
20 Company’s last general rate proceeding in 1991. Allocation factors for the
21 demand related costs are two-fold. The class coincident peak (“CP”) allocator
22 was developed based on each customer class’s contribution to the system’s peak
23 demand of 22,056 MWs which occurred at 4:00 p.m. on June 9, 2008. This

1 allocator was used for the allocation of production and transmission investments
2 to customer classes. The class non-coincident peak (“NCP”) allocator was
3 developed based on the peak demands of each customer class whenever they
4 occurred during the test year. This allocator was used for the allocation of
5 demand related distribution investments and expenses to customer classes. The
6 CP and NCP demand allocation methodology generally reflects how costs are
7 incurred by the Company to meet the demands customers place on the Company’s
8 system. The energy related allocation factors were based on the annual kilowatt
9 hour (“kWh”) sales for each customer class for the test year, adjusted for system
10 losses. The energy allocation methodology generally reflects the variable costs –
11 such as fuel – incurred by Duke to meet each customer class’s energy
12 consumption requirements placed on the Company’s system throughout the year.
13 The customer related factors were based on the number of customers in each
14 respective class and used to allocate costs, such as meters. In addition, costs such
15 as extra facilities that were identified as being attributable to a specific class of
16 customer were directly assigned to that customer class.

17 **Q. WHAT WERE THE FINDINGS OF ORS’S REVIEW OF THE**
18 **COMPANY’S COST OF SERVICE STUDY?**

19 **A.** ORS concluded that the methodology applied in constructing the
20 Company’s Cost of Service Study provides a reasonable apportionment and
21 allocation of the Company’s revenues, operating expenses and rate base items.

22 **Q. WOULD YOU PLEASE DISCUSS THE COMPANY’S WEATHER**
23 **NORMALIZATION ADJUSTMENT?**

1 A. Yes. In direct testimony, Company witness McManeus states that actual
2 kWh sales were elevated above normal during the test year due to extreme
3 temperatures. The Company has proposed a pro forma adjustment to normalize
4 weather impacts.

5 Q. PLEASE DISCUSS ORS'S EXAMINATION OF THE COMPANY'S
6 ADJUSTMENT TO NORMALIZE WEATHER.

7 A. ORS retrieved Heating Degree Day ("HDD") and Cooling Degree Day
8 ("CDD") data from the airport weather stations utilized by the Company
9 (Greenville, Charlotte and Greensboro). Similar to the Company's methodology,
10 ORS averaged the data from the three stations to generate composite data. ORS
11 compared the 10-year average of the composite data to the 2008 test year
12 composite HDD and CDD data. The comparison revealed a HDD variance of
13 1.3% and a CDD variance of 3.3%. ORS does not believe these slight variances
14 support an adjustment to normalize weather. See Table 1 and Table 2.

Table 1: Heating Degree Day Evaluation:

Test Year vs. 10-year Average

Airport Station	Greenville	Charlotte	Greensboro	Average
Test year (2008)	2,977	3,219	3,434	3,210
10-year average	2,911	3,148	3,447	3,169
% Difference	2.3%	2.3%	-0.4%	1.3%

Table 2: Cooling Degree Day Evaluation:

Test Year vs. 10-year Average

Airport Station	Greenville	Charlotte	Greensboro	Average
Test year (2008)	1,832	1,603	1,535	1,657
10-year average	1,729	1,588	1,494	1,604
% Difference	6.0%	0.9%	2.7%	3.3%

Q. DID ORS PERFORM ADDITIONAL EXAMINATIONS OF THE WEATHER DATA?

A. Yes. ORS reviewed annual HDD and CDD historical data for the most recent 10-year period, 1999 through 2008. Over this timeframe, ORS observed wide variances in the data when evaluated on a year-to-year basis. Such variances make it exceptionally difficult to accurately forecast the impact of weather on a utility's sales. Consequently, it becomes impractical to establish a basis to set weather normalized rates prospectively. The extreme variances are highlighted in Table 3 and Table 4.

Table 3: Heating Degree Day Evaluation
10-Year Historical Variances

	Greenville		Charlotte		Greensboro		Average	
	HDD	Variance	HDD	Variance	HDD	Variance	HDD	Variance
1999	2,722	(6.5%)	3,030	(3.8%)	3,397	(1.5%)	3,050	(3.8%)
2000	3,115	7.0%	3,459	9.9%	3,840	11.4%	3,471	9.5%
2001	2,839	(2.5%)	2,953	(6.2%)	3,388	(1.7%)	3,060	(3.4%)
2002	3,075	5.6%	3,254	3.4%	3,577	3.8%	3,302	4.2%
2003	3,069	5.4%	3,261	3.6%	3,586	4.0%	3,305	4.3%
2004	2,989	2.7%	3,234	2.7%	3,551	3.0%	3,258	2.8%
2005	3,006	3.3%	3,259	3.5%	3,486	1.1%	3,250	2.6%
2006	2,704	(7.1%)	2,938	(6.7%)	3,106	(9.9%)	2,916	(8.0%)
2007	2,614	(10.2%)	2,877	(8.6%)	3,109	(9.8%)	2,867	(9.5%)
2008	2,977	2.3%	3,219	2.3%	3,434	(0.4%)	3,210	1.3%
10-Year Average	2,911		3,148		3,447		3,169	

Table 4: Cooling Degree Day Evaluation

10-Year Historical Variances

	Greenville		Charlotte		Greensboro		Average	
	CDD	Variance	CDD	Variance	CDD	Variance	CDD	Variance
1999	1,702	(1.6%)	1,460	(8.1%)	1,337	(10.5%)	1,500	(6.5%)
2000	1,833	6.0%	1,454	(8.4%)	1,301	(12.9%)	1,529	(4.6%)
2001	1,486	(14.0%)	1,545	(2.7%)	1,302	(12.9%)	1,444	(9.9%)
2002	1,853	7.2%	1,801	13.4%	1,638	9.6%	1,764	10.0%
2003	1,389	(19.7%)	1,325	(16.6%)	1,223	(18.1%)	1,312	(18.2%)
2004	1,609	(6.9%)	1,576	(0.8%)	1,534	2.7%	1,573	(1.9%)
2005	1,761	1.9%	1,665	4.8%	1,635	9.4%	1,687	5.2%
2006	1,736	0.4%	1,521	(4.2%)	1,503	0.6%	1,587	(1.1%)
2007	2,087	20.7%	1,931	21.6%	1,932	29.3%	1,983	23.7%
2008	1,832	6.0%	1,603	0.9%	1,535	2.7%	1,657	3.3%
10-year Average	1,729		1,588		1,494		1,604	

1 Q. DID ORS REFERENCE ADDITIONAL INFORMATION DURING ITS
2 REVIEW OF THE COMPANY'S WEATHER NORMALIZATION
3 ADJUSTMENT?

4 A. Yes. ORS reviewed Commission Orders to evaluate previous
5 Commission decisions regarding weather normalization.

6 Q. WHAT WAS THE RESULT OF ORS'S REVIEW OF PREVIOUS
7 COMMISSION ORDERS?

8 A. ORS found Commission decisions that directly respond to the Company's
9 weather normalization adjustment. In Commission Order No. 78-404 dated July
10 13, 1978, the Commission declined the request for a weather normalization
11 adjustment stating that:

1 “The Staff performed an independent analysis of the degree-day
2 data utilized by the Company and compared degree-day data for
3 similar periods in each of the last three years. Based upon that
4 evaluation, the Staff’s witness, Robert M. Bryson, Chief of the
5 Electric Department of the Utilities Division, concluded that the
6 monthly average degree-day data for the test period was not
7 **sufficiently abnormal** from the average monthly figures for the
8 previous twenty-year period to justify the proposed adjustment.
9 In addition, the Staff’s analysis demonstrated that the weather
10 data varied so widely on a comparative basis as to make
11 accurate projections **unreasonably difficult.**” (emphasis
12 added).
13

14 “...in setting rates for prospective application, the Commission
15 must be assured that adjustments to test year information
16 incorporate as much precision as possible to promote maximum
17 fairness to the Company and to its ratepayers. The character and
18 impact of future weather conditions do not lend themselves to
19 sufficiently accurate measurement to lead the Commission to
20 conclude that the Company’s proposed adjustments should be
21 allowed. Therefore, the Commission declines to adopt those
22 adjustments for ratemaking purposes herein.”
23

24 Subsequently and consistently, the Commission has – on several occasions
25 – declined requests to include weather normalization in setting prospective rates
26 for utilities. *See Commission Orders: No. 79-230 (May 17, 1979); No. 80-375*
27 *(June 30, 1980); and, No. 85-841 (October 8, 1985).*

28 **Q. DOES ORS SUPPORT THE COMPANY’S WEATHER**
29 **NORMALIZATION ADJUSTMENT?**

30 **A.** No, we do not. The slight variances shown in Tables 1 and 2 do not
31 demonstrate “sufficiently abnormal” weather. Also, the wide variances shown in
32 Tables 3 and 4 make accurate projections “unreasonably difficult.” Therefore,
33 ORS believes that the Commission’s reasoning and analysis in these prior
34 proceedings is equally applicable in the present case.

1 **Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S ADJUSTMENT**
2 **REGARDING FUEL STOCK INVENTORY?**

3 **A.** Yes. In direct testimony, Company witness Shrum proposes a pro forma
4 adjustment of \$9,375,000 to align its test year coal inventory level of
5 approximately 36 days (at full burn) with its target inventory level of 40 days. In
6 supplemental direct testimony, witness Shrum proposes an additional fuel stock
7 adjustment of \$30,120,000 resulting in a total adjustment of \$39,495,000. The
8 supplemental adjustment is to recover additional costs incurred due to a
9 significant increase in the Company's forecast of coal inventory. As of August
10 2009, the Company's actual coal inventory level had increased to approximately
11 60 days.

12 **Q. DOES ORS HAVE A RECOMMENDATION REGARDING THE FUEL**
13 **STOCK ADJUSTMENT PROVIDED IN WITNESS SHRUM'S DIRECT**
14 **TESTIMONY?**

15 **A.** Yes. ORS supports the Company's proposal to adjust inventory levels to
16 meet its 40 day target. However, ORS recommends modifying the adjustment to
17 reflect the Company's actual delivered coal cost of \$87.61/ton incurred during the
18 period of June 2008 through May 2009. As part of its evaluation, ORS
19 considered the Company's actual test year coal cost of \$80.36/ton, the forecast
20 coal cost of \$92.00/ton (September 2009 through August 2010) per the
21 Company's application, and the forecast coal cost of \$88.70 (October 2009
22 through September 2010) presented by the Company's witness Stroud in its most
23 recent fuel hearing (Docket No. 2009-3-E). However, ORS believes the coal cost

1 excess coal inventory above its target level of 40 days at full load burn. Carrying
2 costs are to be calculated based on the Company's cost of capital in this docket.
3 ORS proposes that these costs be recovered through a rider which will expire at
4 the end of April 2011 or sooner if inventories return to the 40 day target level.

5 **Q. DOES ORS HAVE A RECOMMENDATION IN REGARD TO THE**
6 **COMPANY ESTABLISHING A STORM DAMAGE RESERVE FUND?**

7 **A.** Yes. ORS recommends the Company be allowed to establish a storm
8 damage reserve fund. ORS believes a storm damage reserve fund can significantly
9 help offset the potential financial impacts associated with severe storm events.
10 The Company experienced destructive ice storms in December 2002 and in
11 December 2005 collectively costing approximately \$130,000,000.

12 **Q. HAS THE COMMISSION PREVIOUSLY APPROVED A STORM**
13 **DAMAGE RESERVE FUND FOR A REGULATED ELECTRIC UTILITY?**

14 **A.** Yes. In Order No. 96-15 dated January 9, 1996, the Commission
15 approved South Carolina Electric & Gas Company's ("SCE&G") request to create
16 a storm damage reserve fund of \$50,000,000 to be collected at a rate of
17 \$5,000,000 per year.

18 **Q. HOW WOULD DUKE ESTABLISH ITS STORM DAMAGE RESERVE**
19 **FUND?**

20 **A.** If approved by the Commission, similar to SCE&G, Duke would be
21 authorized to collect \$5,000,000 a year to accumulate a fund not to exceed
22 \$50,000,000. The rate base impact of this ORS adjustment is incorporated into
23 ORS witness Scott's testimony.

1 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

2 **A. Yes, it does.**